AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for the production of molded bodies (1) out of thermoplastic material with or without fiber reinforcement in a one-step production process, comprising the steps of:

utilizing a tool with a lower and an upper dimensionally stable shell mold (10a, 10b), which form a mold cavity (12) with ~~surfaces~~ defined surface shapes on both sides (11a, 11b),

wherein ~~the~~both shell molds are designed as thin-walled and metallic,

with a centering portion (15a, 15b) of both the shell molds,

with a displacement compensating, air-tight edge seal (16) between the two shell molds,

and with tempering means (13) for the controllable heating and cooling which are directly attached to~~of~~ both shell molds (10a, 10b),

inserting thermoplastic material (2), with or without reinforcing fibers (3), into a shell mold in a locally defined manner,

closing the shell molds and subsequently evacuating (p1) and in doing so pressing together with a reduction (ds1) of the distance between the shell molds,

heating ~~the~~both shell molds up with the tempering means to a temperature above the melting point (Tm) of the thermoplastic material (2),

holding at a temperature (Ts) for the consolidation and flowing of the thermoplastic material under pressure (dp) with a further pressing together of the shell molds (ds2) up to the contour filling flowing out,

subsequently cooling down, under pressure, in a defined manner up to the complete solidification of the inserted material,

and opening the shell molds and removing the formed molded body (1).

2. (Previously Presented) The method according to claim 1, wherein for the consolidation and flowing out, an additional external pressure (p2) is applied to the shell molds.

3. (Previously Presented) The method according to claim 2, wherein the external pressure (p2) is applied in a pressure chamber (35) by means of compressed air.

4. (Previously Presented) The method according to claim 1, wherein the shell molds, at the edge of the mold cavity, comprise a shaped retention zone (17) for the

thermoplastic material.

5. (Previously Presented) The method according to claim 1, wherein, on the edge of the shell molds, vacuum channels (18) are conducted all around.

6. (Previously Presented) The method according to claim 1, wherein with the shell molds geometrical shapings (42) such as ribs (43), holes (44), break-outs and differing wall thicknesses (45) are produced.

7. (Previously Presented) The method according to claim 1, wherein the shell molds are designed as two parts and as separatable with a fixed edge part (10.1) and a mold part (10.2) forming the mold cavity (12).

8. (Previously Presented) The method according to claim 1, wherein the shell molds are comprised of differing zones (10.5, 10.6).

9. (Previously Presented) The method according to claim 1, wherein the metallic shell molds (10a, 10b) consist of galvanic layers of nickel and copper.

10. (Previously Presented) The method according to claim 1, wherein the tempering means are electrical and are attached to the shell molds in the form of insulated electric heating wires (21).

11. (Previously Presented) The method according to claim 1, wherein the tempering means comprises a liquid medium (23) that is utilized as cooling means or as heating means and cooling means, which circulates in channels (24) attached to the shell molds (10a, 10b).

12. (Previously Presented) The method according to claim 1, wherein the tempering means (13) are directly integrated into the shell molds (10).

13. (Previously Presented) The method according to claim 1, wherein, on the shell molds, a locally differing tempering (Q1, Q2, 51) is produced.

14. (Previously Presented) The method according to claim 1, wherein the tempering during the cooling down step does not take place in a linear manner, but with a slower transition through certain temperature zones (Tk).

15. (Previously Presented) The method according to claim 1, wherein locally differing materials with differing characteristics and shapes are inserted into the shell molds in defined positions.

16. (Previously Presented) The method according to claim 1, wherein additional surface layers (29) are inserted into the shell molds.

17. (Previously Presented) The method according to claim 1, wherein on the surfaces or in certain zones soft, elastic materials (26) are inserted in a locally defined manner.

18. (Previously Presented) The method according to claim 1, wherein inserts (28) are inserted into the shell molds in a positioned manner, the inserts becoming integrated into the molded body or else are removed following the production.

19. (Previously Presented) The method according to claim 1, wherein hollow bodies or hollow spaces (46) are formed.

20. (Previously Presented) The method according to claim 1, wherein sealed gas cushions (41) with a defined gas content are inserted into the shell molds.

21. (Previously Presented) An installation (30) for the production of molded bodies out of thermoplastic material with or without fiber reinforcement in a one-step production process, comprising

a tool with a lower and an upper shell mold (10a, 10b), which form a mold cavity (12) with defined surfaces on both sides (11a, 11b),

the shell molds being thin-walled and metallic,

the two shell molds having a centering portion (15a, 15b),

a displacement compensating, air-tight edge seal (16) between the two shell molds,

a tempering means (13) for the controllable heating and cooling of both mold shells (10a, 10b), and

a vacuum device (31) and a control system (34),

wherein thermoplastic material (2) with or without reinforcing fibers (3) is able to be inserted into a mold shell in a locally defined manner,

wherein the shell molds are closable, allowing subsequent evacuation using the vacuum device (p1) and in doing so pressing together the shell molds with a reduction (ds1) of the distance between the shell molds,

wherein the shell molds are heatable, with the tempering means, to a temperature above the melting point (Tm) of the thermoplastic material (2)

and wherein the tempering means are able to maintain the shell molds at a temperature (Ts) for the consolidation and flowing out of the thermoplastic material under pressure (dp) with a further pressing together of the shell molds (ds2) up to the contour-filling flowing out,

and wherein the shell molds are coolable under pressure in a defined manner with the tempering means, causing the complete solidification of the inserted material.

22. (Previously Presented) The installation according to claim 21, further comprising a compressed air device (32), for applying additional external pressure (p2) to the shell molds with compressed air.

23. (Previously Presented) The installation according to claim 21, further comprising two arched half shells (36a, 36b) made out of endless fiber-reinforced plastic material with a locking device (37), which form a pressure chamber (35).

24. (Previously Presented) The installation according to claim 21, further comprising an assigned confectioning station (38) for the cutting to size and putting together a pack of material (27), a handling robot (39) for the positioned insertion of material and a process control system (34) for the controlling of the tempering, pressure and materials' movements.

25. (Previously Presented) A molded body made out of thermoplastic material, manufactured according to the method of claim 1, wherein shaped pore-free visible surfaces (9a, 9b) defined on both sides are produced.

26. (Previously Presented) The molded body according to claim 25, wherein the molded body has a multi-layered structure (4) or locally differing material compositions.